

In the Specification

Please replace the paragraph starting at page 20, line 24 (paragraph 0076 in publication 2007/0222088) with the following rewritten paragraph:

[0076] FIG. 1 illustrates a top plan view of an alignment mark 100 according to one embodiment of the invention. The mark is shown in the intended configuration that results when the tested layers of a structure are in proper alignment. The mark consists of two mark portions 112 and 122, one on each layer 110 and 120 shown in Figs. 7A and 7B, so serving as overlay and reference.

Please replace the paragraph starting at page 21, line 1 (paragraph 0077 in publication 2007/0222088) with the following rewritten paragraph:

[0077] In FIG. 1 there are two test zones 102A and 102B. Each zone has an overall square shape. The zones are spaced along the dotted line equidistantly about the dot so that each square zone is located mirror-symmetrically on the dotted line. In use this is an X or Y mirror direction of the bright field imaging microscope or other device, with the dot being the optic centre.

Please replace the paragraph starting at page 21, line 7 (paragraph 0078 in publication 2007/0222088) with the following rewritten paragraph:

[0078] In this implementation, four mark sections groups of linear mark structures are shown 114, 124 and 116, 126. The lines in the first two mark sections groups 114 and 124 are oriented vertically making up the first zone 102A, while the lines in the final two mark sections groups 116 and 126 are oriented horizontally. The pairs of lines are designed to be printed exactly side by side. The overlay measurement is the relative displacement of one set of lines from the other, which may conveniently be measured using any standard or specially modified technique and analysis.

Please replace the paragraph starting at page 21, line 22 (paragraph 0080 in publication 2007/0222088) with the following rewritten paragraph:

[0080] FIG. 2 illustrates a top plan view of an alignment mark 100' according to one embodiment of the invention. The mark is shown in the intended configuration that results when the tested layers of a structure are in proper alignment. The mark consists of two mark

portions 112' and 122', one on each layer 110 and 120 shown in Figs. 8A and 8B, so serving as overlay and reference.

Please replace the paragraph starting at page 21, line 28 (paragraph 0081 in publication 2007/0222088) with the following rewritten paragraph:

[0081] In FIG. 2 there are four test zones 102A', 102B', 102C, and 102D. Each zone has an overall square shape as in FIG. 1. The zones are identical in size and spaced along the dotted lines equidistantly in pairs e.g., 102A'/102B' and 102C/102D about a common centre. In use these are X and Y mirror directions of the bright field imaging microscope or other device, with the intersection of the lines being the optic centre.

Please replace the paragraph starting at page 22, line 5 (paragraph 0082 in publication 2007/0222088) with the following rewritten paragraph:

[0082] Again each zone consists of an array of lines in a mark section, e.g., mark sections 114', 116', 118, and 119 in the respective zones of 102A', 102B', 102C, and 102D form from the overlay and an array in a mark section, e.g., mark sections 124', 126', 128, 129 in the respective zones of 102A', 102B', 102C, and 102D form from the reference. The lines in two of the zones 102A' and 102C are oriented vertically, while the lines in the final two zones are oriented horizontally 102B' and 102D. The pairs of lines in each zone are designed to be printed exactly side by side. This produces a cross pattern similar to that of traditional targets, but with each zone symmetrically on the axes whilst retaining a square geometry. This design meets the goals of separation of the target lines from each layer in order to avoid interaction between the images, axial symmetry and offers more image detail than other designs. The use of isolated groups of lines for each layer also permits application of novel image analysis techniques.

SILICON VALLEY
PATENT GROUP LLP
18805 Cox Avenue
Suite 220
Saratoga, CA 95070
(408) 378-7777
FAX (408) 378-7770